

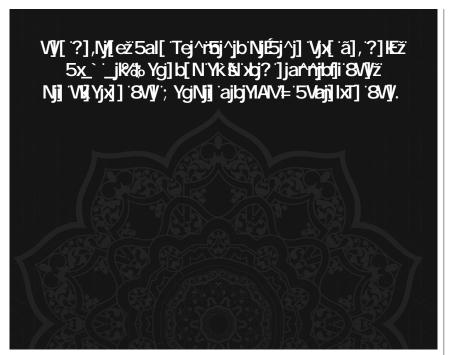
5j^**'k]aj^jb**' W]x\k_N

kyx_`aja jf?j]

_je@5j^![FrjkbT'kb_j['5jYrbj?]j[

ftj^jb/Njie? \kiXjFN?],VL

ã]j'aTa™5j^!?jæTj'6a^j[l'[jAk]Y'fkQIMŁ



\\\tilde{

5j^xFk]ej] '5j^!5j=]ja'; ^j?j'xSx? '5jk['5jVWjxT] 'Zj6'kb_j['5jYn5j?]j[p''5jk['-\$;] '`W\$[kTx? '5jXAjV'kF bjxT'x\jA'xT6p'5jk['Yjk] '?"]% í 'W\$_a MxW6'\j'ajkZå'
YMNj] '5UxV'kE^'; Yg; 6'?"]% í] 'TjkexV'kEx^V'?[jÎ j] '_j6@5jYnNnjnk?ej'5j^!k^kV'
]kb[jî ^jbp'5jk['anfinxV] '8xÂx_™' 'Î] 'x_x`] 'kTx? '5jXAjkV£jtV N]NA'?k] '; Yg_j6@8aj[j] '``f5j^jb'Nj] '8VÎ '5x_`'] b[N'Vjk\^'?],VŁ' xAê bj8xa'%-) 'aj^'VX\$t55Y£j\$V?k] p

5jk['Vj6Fj]'[],Zk[xN'WkY_'?k]'/'xa@jxV'Zj6'@jx^T'5jYn5jYOJa'; Yg'Nji]'Tx^]'ajxS'5j[j]'aja'jf'bep'<YEx]6'5jk['NjxT]'ajxS'5j^xFk]ej]'Vj6%@fNinthk'; ^j?je'WkY_'?k]p'%-*!;]`â],]'kTx?'5j^jb'Nji5j^j'5j[jxT]'FV''\^A5j[k':6a^jk['A£\/MBLak!;]'6[j]xN'x\/MEjx\/j]']j£jf'abF'?x]'xTVp'xa@jxV'5jk['NjxT]'ajxS'xTc'[ja'5k\NjkD\'?k]'; Yg WkMjje'Vj6%@, ^j?je'kxx]'\j6p'5jk['xa@jxV'; Yg Vj6Fj]''[],Zk[xN'&\$\$\$'aj^'W\%\$dak@e'kE^j['; Yg\WM]'WkMjje'5j^xFk]eje'Dx^'5jkap'

&\$\$%ajx^] `x_x`] `kTx? `[jk^] `[],Zk[xN`Dx^`\j=ej] `Ww*šW\\$&t5jk[`5j^xFk]eje` 5Y£fV?]j] `W]`5jk[`5j^xFk]eje`kXx]` 5Y£fV?]j] `W]`5jk[`5j^xFk]eje`kXx]` 5jkap`5j[]j`5j^jb] `?jxE`Teji?k]`x\V`kNkV`Nj]`]jkb`_jbjTjN`TjxV] `[jU'X[`5j[jxT]`;*Yg xNj[jxT] `FIYxV] `5YajV`BI jVž 5j] `5j[jxT] x? `zU\\$I^`b=ej] `Nj=XI? `TjV`?x]V`x\xbNrfbj[]j`Wfn£jx]] `5j_j`]jk@p`

| V<u>@</u><& '5j^xFk]ejxN'k?ZjxY'kFbjT'ã], 'bxekE^'Nj' | 5jVkV'5j[jxT]x?'Y^xVV'k?3

; 6' W(£_]' ?j] x\\di; 6' \w\\Ej\\di]' 5jx\jx\?' 5jk[' 5j^\xFk]ej]' kFbjTl' 5jx\dj^\x\] 6k\\bja\x\j; ?\j]' 5jx\jD\Jj?] x\\Dj6\x\\a\\a\\frac{1}{3}\text{\$5}\d\?' x\\jx\?]j6\Fjx\\Ujp'

NjxT]`Uj]Njnž'-\$Lj`T_x?`5j[Ks`6a^j[l`AKSN(GIA)`aENj]`[U™kTxe`;@jxN` kFbjT`â], bxekE^ž\j`k?Vj`;6`kFbjTl`6kNbjxa]`;?kl`kYZjFVp`;]6`kZk%xN`5j[]j` Yk^ž

5VANAbžTj7 žk/_kk/Tj^/xe] WEXa]; Ygk/kZV; _j@]?[kx7] WAENj]5kZ\jxV]ajalke^p

a]?j]l TjleN'_l^]j î [kî; Yg a%pla]; 6 VMJxY_žag£j]?xT] kY],xÊ WMEejA ?x]lE^/\j] Xx^; 6 5jxŠtj^xM] k?EmaTa™a_£²?j\\$vx[] VMEejFVIeNj a•íx?š 5jbODF ?]xN xAjVWV ak@eNjYjxT] WS 5Y^•1x7 x]lEx^Vž5j]; ?kl a_£²6a^j[l T^ WME\çj ?x]lEx^V _ja?vAnjçlv? a[kDN FYjY v17ej] 8xÂx_159

Yj£kk'?6z¯_je@[fijkkjYtómik`] xv/NunN'5j^xFkjej] a%pk/xT][xu™,?kl:V"jeklyçT^!kFbjxT]FV™WLEN bxekE^;,YgFjk\['_ja?xT]x?5[jV™?]xN'â], ?x]kE^p_je@Ytómik\]:WkjDj^Vje:xTx_]kVkZV VMSE_xSx?5xl/?\M?KFbjxT]Kjx?ajcjxTep

_je@Yxxxxx; Yg Njj] k? EmajSl %, + ajx^] '] j FjVejk] VX.\$xxxi ji j[khz];xY kl x? kEx^Vp

;] `Xx^`` kYkZV;]jFzWkN?`Tx^] `5jkYZj¥' bež kYx_``?x]` 8x^@&jA™bx^j` (\$a^j[l`a*j*^xZ_V` X&6dt;] `Vj[ž \j]j`a[jxF`Tj=ejb`; Yg 6a^j[l` [^*\$YjU`Ekcxe`xT=ej]`?jxF`«],NWk4Zk[?j`Wj*^V` ?x]kEx^Vp`````

?j]jYŠTIKEx^V`NjixT] [ksi; YgVktflje:NjixT]x? 'ERER/ktTYbjx^] TjkY'FjVjVž<a?^' YŠTIXT] [XUTM[6cXKj:Y6x6k]:Tx^] aTaTMj= KEx^Vp:Yj£kk/?6ziNjilj:[k6j:xk/WekEx^Vp:] jadonktv: DjTk': xYŠxFkTT: NjkT] x?:] jadoce a [j:xBj; Nf?x] Vž \j] :Xx^:%-\$:ajx^]: Fmj6xN'_j6@[m6xkj'Y6mik^] Tx^] aTa¹]'j'[k@n VijVžNjikT] [xU™_j6@[jVak]n 5j^! [j^jejkV; Yg_j6@5jÖm?jkT] ajY8kN!;] [N:5N™kk],NWk&YTk§]j= kEx^Vp fbj^jb/NjkT] 8WJ Tej?],VŁ

; ZjxYž 6a^j[l`Tj=ejb`; Yg 5V'jW™? [\$j1/2D^kE^p`6a^j[l`a*j^^xzZ_V`X&te 5N*%tb «],NWMstZk[?j`]j@xN`â], '?x]`\j`NjixT]`Wwfnj`5j^xFk]ej]`xM(]aZj«x^jxN`Ekcxe` \j=ej] `Wk] `k/x_`Zjx/`Wk] ^k N`bep'; 6`5Y£j€Q[`%-%U[B|Èb=ej] `Wk/šW\&& kY]jF[jV'kE^p; 6'U[81 D^j?j^IV'a[xe'Xø6] xVNj; Yg<kNbjka? _j6@AIVMA&ANj]</pre> $bVp < a[xe_j6@Yfokk] Tx^] aTa^{y}ab5j] = k? EfrV a_£25j^{(initial)}? Sj kD/fib$?] $xN \hat{a}$], ? x] $Vp U[B D^j? j^N a[xe x 5j] = R EnAkh V 5jX Ajk V £jN x 5x? ; <math>Ygx ? 8$ bxelEx^V; Yg; ?kl ak 1k^N aj[k]? 5j©[xlV] W&M kl/xN xDxelEx^Vp\j6xbj? zxa6 a[xe < Wk]?àVjkk 5j] Yj£YjkeN bekVp

\(\mathreal{W}_\mathreal{\mathreal}\) \(\mathreal{\mathreal}\) \(\mathr 6a^j[I`a']^^xZ_V`X&&j`agaTle``k\YjjDxV`Fel`bYj]`W]`6a^j[I`Tx^]`Wkjj]`Sj[jxN` a [NjT@^ž Yj] Yj] 5jaV;5Y[jVVj?] ZlkN Wbest; Yg 6a^j[l 5jxŠj/xV] a%k/xT] xv/Nj kex^Vp ; ? kt `Yc`5g_x?` vAnENjx]] `^a "YY£nYYjVjxVj] `X ^_; kNxN6` kF bjT`= `aj[k]? `5kZ \jV` W{WMstxWa], be°

WX.jsc^jDV/jh X.nse*] _j6@xT] 5AbojÁje; Ij6 a.fm azzjxY Wsule[jV be x\ž Nj]j Tj=ejb ; Yg]jFzWkN? '?[\$jx½; kTx? 'xY_l VF] 'kTxekEx^Vp aj[k]? 'kY^ ejY^l] 'kTx? 'NjxT] '5j^xFk]ejxN '\@V' kFbjT 'â], 'bez' ; 6' a6niaex?jV`5jA6`kE^`Vjp`?jxF6z`kFbjT`â],`b=ej]`ajxS`ajxS6`NjxT]`;6`TMn\$Nj`5jxŠtj^xV/]`5xV?`a%pbV]j`N@V`aj[xV`5A6]` Wizi_bxe Wic p

|V<u>@</u><':<a[xe`[**ak**^[`& ĵb]`; Yg6a^j[I`5jx8j^x\/] W] KEEN ? 1] ? ['KE^'3

5j^xFk]eje`, \$t] T_x? Tj=ejb`?j\\$[`ak@e`kE^p`a?^`[jVkh]`[jxG`ËIVTjk]Nj`Ekcxe` ; Yg kbFjxY] `D^`%-%ajx^] `-6`5x4jY] `;] `] jFzVkN? `W£jjY`VX\\$&kVkZ V<6a^j[I` 5jxŠtj^Vx? VNMn[jÁj; xV ktxekE^p

\@V`]jFzMN?`agAJV«x^j`AkJN`b^žTj=ejb`YkÊ`xM^`;Yg`kYkZV<6a^j[l`5jxŠtj^V` fllf bjTl'Uj] jž[ank^['Yjūtj]îK'Nj] '£jtVle'; Yg;5j%t6jkN?'5° abžaj^jkXF[žNj?kX] kX] k? En55? 6n€ž Tj=ej = NjY^IAž 6N"jNT 6N"jNTŁ!;] [xU™[NVijS3³ ™8xV-jHDN bxN Sj? ^p N@Vž 6a^j[| _jk] ejb WkejxA] ? N&TZ'YJW? ZjxY Elcxe Wcj xY? j] Nž 5j] _jaV? j\š \(\mathbb{\gamma}\) \(\mathbb{D}^\) \(\mathbb{V}\) \(\mathbb{E}^\) \(\mathbb{P}\) \(\mathbb{E}^\) \(\ ?]xN'â], ?x]kE^p

; kTx? zॅ, \$P; T_x?] [jGj[jkG'_k§_j^I agbkN] [jUTX['^a MeZjxY 5jX AjV kF bjxT] 8VMN bxelE^; Yg; 6'agblN] x\jAar\[ank^[YjTj]îK', \$\frac{1}{2} T_x?] x_`x\x\? - \$\frac{1}{2} â], WX \$6\$\$\/N\M'Ux] x] x@\E^p

<a[xe] '6a^j[| 5jxŠj^xV] '[xU™5VM['; ?kL'5jxŠj^V'kE^'Nj^jYj'5jxŠj^V' ; kt.6'6a^j[l'a']^^xZ_V'X6el;] '5V'M['5x' 'WkJMN'bxekE^p'



_blT _j6@ [bjr T aj6T f5j^jb/Nj] 8W]] b[

; 'Tx^'\k'\k\Z\V\\k\Z\\\\mathrel{k}\T'\j\^xe] 'EjÁ'\\k\E^'\\j]j'\k'\k\Z\V\ $kYx_{i} = T^a Nje Tk^a Np^a$

bxelE^p

; Yg Nj] W] Nj] j`_lbT`_j6@ 5jYm5jÖnjb` 5jbx[Tf15j^jb*/ Nj] 8W]] b[?],V4;] 6[j] xN] 5UlxV WENIÇN XFjxI X\jATjV





VÊ<(k bjxt] kvaë gji j yov?j]l af [fijkotxt] 8vy njxt] ?l Ujxv] vvĝjy ke^35j] njxt] vvn 8• jb] ?l]?[5y£j€v ke^3< a[xe 8• jb k² T^¬x^j] [x∪ vvj&3™?]xN xvvj ke^ž VIR NixTx If K'xe xx x IE ^ 3 :

\(\text{WNjxT}\) \(\text{WEjY} \in \text{X}\)? \(\text{W}_!! \text{X}_\text{A}\) \(\text{NNX}\) \(\text{WNxV}\) \(\text{WNxV}\) \(\text{Vj}\) je \(\text{Tjkcxe} \) \(\text{NjxT}\) \(\text{x}\) \(\text{WM}\) \(\text{WM}\) \(\text{WNxV}\) \(\text{Nj}\) je \(\text{Tjkcxe} \) \(\text{NjxT}\) \(\text{x}\) \(\text{WM}\) \(\text{WM}\) \(\text{Nj}\) is \(\text{Nj}\) is \(\text{Nj}\) is \(\text{Nj}\). _ja?vAjçl`VWf]je`_l§`5F`\$'?]j`â],`?x]`; Yg`lFbjkT`5jxŠTj^Vx? UCoga?x]wTep

Fjk^[]j'; 6'5Y£jj 'Wj WkstarknjA'xVež Nj]j'; 6'a?^'?[\$jx½] ?j]xM[FrjlbTxT]x?`lv'?lvl`5j@j™xTe`; YgʻajUj]M[jVmxT]`ajxS NjxT] _ $A^{N}j$ | a^{2} | $a^{$; 6 F jbjVj[XSX VýK xe XAXE NjxT] X? a [j?]j] Vjx[NjxT] F xV M XV a [S\$ Yc 5j?jx] ?x[5jxap W2 NVX ž k? Em 5jNa[Wk/?]j] T]Fj@xn\vlvejbxekE^p;6a[xe_N_N:[FrjkbT] WYSINTA?x] KEx^V; YgKF bjT YF Si?x] KEx^Vp

k? % xZ {Ak^? Z jxY xT_kk Ybof b=ejež [FrjkbTAM a Yá Ekcxe kAxekEx^V; Ygi T;N: x\jAjx\jA: Y"YEje: 5akYUj: kE^ž Xx^: =6 $5\mu ^{x}$ 5 5 5 6 6 7 ?[jxl̂] "aT]TÒ] «x^j; YgNj] "Dj] Vý_ VX\\$&al[jYÊ lÆ^p"

;] [xU^5VM[; ? kL kY e x\kL 5kU? jg_ 5μ x^ GIA'] ; 6 kYDMN BI j'x5x?' WENx] jU'?x] x] x@HE^'Nj'bx^j'51Z' xWNjAM; Yg $\label{eq:njx^xy!6^[xt] 8WEEN'j]j'GIAf[i'WJJxWj'kYYN'; Yg'5V']e'']} $$ = a•íxT] ` zYUNj xTej agk_æ5jxT_ WfejA` ?]jx? ` Wfdr@jW ?x]kE^p`\@V`Væjk[`; YgkYDMN`Wk]¢j]`bxekE^ž`Nj]j`NjxT]`ajxS` a•í?škEV;?x] kEx^V;; Yg`\fin?x] kEx^Vž x\ZjxY`VkYš8x^@?]j bxexE p

8• jb] 5Y££7 a• ki ž 5j[]j WkYš 8x^@?x] kE^j[x\ž x^j? FV kVxFxT]x? $a_£^2?x]kE^+; YgiGIA'] ajxS: \fin?]kE^p: DNkftx?$ $\label{eq:njxT} \begin{tabular}{ll} NjxT] $$ Tje[k \begin{tabular}{ll} Mp \begin{tabular}$ $x_`W.$37'' bxe = 'je 'j 5j[]j W.Y.$68 N RTxeREp'$

\www.nnT^kk] fGIA) \www.nnT^kk] fGIA) \www.nnT^kk] je 5j©j%tbe/5j] kFbjxT ; ZjxY6 NjxT] 5W?[š ; Yg YjcjYjkc] ?j] xW [jVm

D] [W/6; Yg5V]V''[FrjkbTAxV] [xU''F VAxV] VjS3*''k/xT<u>\$</u>?]j] Y'jWyk] ž5j[] j kVlá NZjxY; 6 kaÊjx%t5jaxN Wyk] x\žD] [W%t6xT] : ?]j`5W]jU«x^jžNjxT]`??n[š, Yg`TMMaN`ajUj]M[jVm`]`5jxYxA]` 8W]; $Ygxa6ajxS[FijkbTxT]a[SixV]x^0xA=WEjYxXx^p$

T^`Nj«xN]`ajxS`x\jA`xTe`; Yg`[FrjlbTAxN]\`ajxS`\fin`?]j] $FV^{TM}5£^2N_{R}^{2}$ M_{R}^{2} M_{R} ; ?FV'@]jW'= 5W]jUl] [xU™WjS3™?x]kVp'NjxT] '?jxE'aYj6' **LE**^'; ?6']?[p

5j[]j`\kT`kY_TZjxY`xTk@z`x\`a?^`F VAM[FrjkbTxT]`?jEj?jkE` lEx^V Nj]j'; 6'Tt6nTx^] [xU**VijS3***Mj'Y6nxN'a* ['bxelEx^Vp' [FrjlkbTxT] ajxS Sj? j NjxT] a%fk/xT] xYjGjxVj kY_jxa] 8W] (NjxT] ' Y'Ybj] ' kVZ} '?x] kE^p' Nj6' Nj] j' NjxT] ' WKJ kDN' af' [FrjlbTxT] a[S\formalfontarrow x] kE^p

5j] `F VAxV][`; ?1j` Yc`5g_ž`\j] j` \xb^] `[eTjV` xSx? `Tx] `\&^ž x\[V!ajUj] MN Yc Yc _b] «x^j] x^j? F Vž kYx_ ?x] \j] j D] [WM&T] `ag£í x_š5jxa`kVžNj] j`; I j`kV_ja`?x] kV`x\ž[FrjkbT] j` ; 6 U] xM] ANbNT™; Yg A1/xAj^`?] xN WjkJ p WJ YxNš Nj]j ; 6 U] xlV]| ? jF « x^jx? 'ÅxKS 'x£jejKÆVjx['V\\] kDN 'Nj« NYjkbVl] '? jF ' $Yx^TjkY?x]kEx^Vž5j]; 6k[k^k_ej]jFVAxVJ[xVZlkVa\muj]$? x] 'x] x@\Ex^jp'

; 6.8 W/kež; 6; ^j?ja[b.ANbN]*Vj.xT@] ?j]xVl; @V= kFbjTx? a[S\$7?x] 8W?jk]Nj WkyEžNxY5jxA] xSx? 5xV? ?[Wk][jxWb**

<u>VÊ</u>().**YN**[\$jx](5j^xFl}ej [kFbjx]] ?1.5Y£3

\kT 5j[]j 5j^xFk]ej kFbjxT] YN\\$jV 5Y£\EYN\\$j ?]xN`\j6ž`Njbx^`5j[jxT]x?`Y^xN`bxY`; I j`; @V` Nj] _] f? jx^ 5Y££V ?] xEž 5j] [eTjxV [FrjlbTAxlV][W] ¢]] ZjxY 5YVkN bxexEž;] ?j] M lbxaxY 5j[]j ? xe? lt Bl Vj] ag? ^V lvx[< 8x^@ ?]Æ!:

[FrjlbT]j"; @V="VX\\$%6kF"5j6"; "fGIAŁ!kYØjk%66" $[^{T}W_{X_j}U^?]xE^; Yg_{X_j}T^T fGIAL^2]j^TZ_{R}^{T}$ [jâ^`kTxe`\jxyEž`?j]M\x^j?FxV]`ajxS`Nj]j`x\` 5 W[jU?x] xE Nj?@V= Z xn^ \j=ej] [N Vep Nj]j aNI!ajUŒVj] lxT] '6± N'b] M?x] xEž kVk Ë '] § kVkYtSjx] Gk] xexEž [jVkn] abje!a•ík¼^m?x]xEž 5\Sj`Nj]j`; 6`V']\\\\\j]FV?`?jF«x\\j`?x]xE`\j` _jk] ejb`Yj`kYxY?`x?jV`k?EnkTxe6`W[£jtV!?]j]`x?jV` am/njA′xV6p″



- ; 6 k/ ea[xb] ?j]xM ajUj]M x/j?FV kF bjTx? a[S\formalforner ?j]xl\db^[FrjlkbTAM; [V^; ?kL^k\dagger^xe]^akYlUj^ xSx? 'Yku N'bxexE'\j'xAk]^j'\xfa] 'aX^Nje'5kN' «],NWK-5lpˈxAk]^j:\xnਰੈ]:Wxnji;kY`elj6;[V:x\ž \j]j ajUj] M [jVm] a[S\f VykY Nj]j6; xN aX^?j[bxYpTznjkATPV?ZjxYž5kU?jg_FVANdo 5jF [FrjlbTxT] ajxS xV6; YgNjxT] kVkZV<5g_ [FijlkoTxT] 'kY],xÊ 'Dx^ 'xAxEp'

5NhW] ž 5j^xFk] ejV _ja? YAš ; 6 kY`eljx? '5jx]j [FYNni ?x] kVxFxT] £BASš ?jxF: ^jAjxVj]:FV™; xN:5S&VkN?ZjxY:[^UV: f5j^xFk]ejV'[Trij]e kbxaxY' Witee &\$\$' k[k^eV' $K^{j}x] = xY_{k} x_{j}A_{j}x_{j}E_{k} y_{j} N_{j} y_{k}$ ajXx^1] ajxS FVAxV] W_£Nj] 8VI] Fel bYj] FV™; Yg [FrjlbTAxlV] kY],xÊ FVAlVl? ?j\\$]|?]j] FV"\Y"Ybj] ?x]xEp"

5j^xFk]ejzkFbjxT] _NjÖl]; ?!DN6njkx_] [N ^•R; ? a[e \jÁj] W]! x^j? F V ? j%&bVx_` ? x] ` \@V:5j^xFk]ejV_ja?xAjçlNjxT]Zj`je;6 \mbackdots] jF zVkN? 5jY] MNm/n kV/p

; aY ?j]xM AÉxM]fGIAŁ 5jNa[WaN] kY ekt _jax?]j¨;ZjxY6`YjNj¥6`vW(NE`vTve`v\r`_jax?]` kY], x£ 5Z**S*jxxV] kY`ekt; @V 5NINp



"′∖j6 xbj?ž a[£†V<u>kl̂</u>gaj 5j^jb] FV†z″ 5j^xFk[ejxN[[fijlbTAVVVIIIaj;;vyg?xJj] Tīfī<u>šj</u>] a•igM b=ej ax¿±ž Nj] belÉx^V; YgVjlbjxć] [Ň TalxŚŹ/lEx^V

N@Vz 5N"][0] | a]?j] _]lejb 5jY] vMjl El xY_'Uj] M?] xN xDxelE^ž \j]`FV"Nj]j`a%alxT]`f5j[k\6a^j[l` AÉNŁCâ], '?]j`\xkā̂] 'ZmhžkYD7kk\z5j] ' k/] S\$Nj`W[jM?]j]`FV™_N`_N` 6a^j[l'Tjhel'; Yg'YknôFlYlxT] 5j^xFk]ejxN: 5j[k%N: =:;?kÁN:

 $[Nj \times N] j \times j \times j \times K$ _jk£]; a[k%R); WÊkN; WkéjA;?x]kE^p

Nj]j [FrjkbTxT] ajxS a•í?š 5jxE ; [V x^j? xT] ; Yg \j] j ; [V ; [V FjeAje [FjlbTxT] x? xT@xN Wj=ej] V] WENXYTV xTekV NjxT] 8W] \naim{\text{`WENYI'?'_jkExt'?j]jT1/2 Uj\s

WENTEMAZIŽ \j]j [FrjkbTxT] kY],xÊ ajbj\™?x]lE^: 5SYj NS™ WÉjV ?x] kE^`Nj] j`8Wbj] `; Yg`W[m£]] WJD` bxelÆ^ž; [V'; ?kt'8W?j]l'NS™\kT x?8 kTxexE \j] [jU'x\[[FrjkbTxT] x? bN[™]?]j \jxY Njbx^ Njx? ;] [^TETRW) \$\$ 'k[k^eV K^j] ; YgZjx^j Yjkc | kTxekE^z 5j] < l j | kE^ kY_j^ WKJ[jM: Yg5N™%bx^jZVleWmf£j]p

-; 6 bjkTej«x^j] [jU'xt [frjkbTAM a? ^ 'kTx? 'Tvl' ag\x[] '5kZ 'Nj '^jZ ' ? x] lEx^Vp

alk[N ag@?! x^j?xT] kFbjxT x\jA xT=ej; Yg 5j^xFk]ejx? kVe%k/1?]j Xjxxe) : WKN : 5 VAAN : vF Vjx] ^xT] : ? N\$ â], b=ej ; 6 Wbb½ kYU05gal \fin kYx/DVježag@j™, YgTa Nje YjW? ZjxY [FrjlbTxT] '5UhWWV'bxelE^p'

NxY'; Ij='; ?kt'kY'e'x\'\finaUm'i Tribe WTx⁸ WVežY] g; kt; ? kt F jNj? ^ `\j` ?[jl j]; Ygzak/?xT]x?; ?ajxS?ji%to ?x]p

\j6`xbj?ža[£†W<u>Ég</u>aj`5j^jb]`FV½' 5j^xFk]ejxN [FrjkbTAM W] la j ; Yg ? xJj] ˈTᠮᠯᢐᢩj] ˈa• @ M ˈb=ej ˈa x²/≠ž Nj] j ˈ 8T'[M' bxelEx^V'; Yg' Wjbjxc] '[N' Tal' xSx? kEx^V; YgNj]j"; 6'kV ekt] 'WkN' kVYÊ bxekEx^V x\k NjxT] x£jAjV bxelE^.

ÅNyfaNj] xDxe [WT1833/4 Æ; Yqxx Å5j^jb] _WSž [jmNjTxT] `kY],xÊ `_Ámj `]j@4N ` 5SYj NjxT] a?x^] k/],xÊ \Ên?]xN 5j[]jTh@?kJVj°Æ

<u>V</u><u>€</u><*. '5j^xFl}ej 'lÆbjxT] ' 8VV [jk'; Ygk'k/ej lk bjxT]

[FrjkbTxT] ajbj]je W£Y_ ?]j] W{]?àVj = WÉjM 8xÂ_TO KE^; ljx?; ?kl kY?à Bjkl koxaxY Axc xNj^j \jxN;] Ej]j 5j^xFk]ej] 'kFbjTx?' ajbj\™?]j \jep' Zjx^j: X^jX^: ^jZ' ?]j]: VJ]: VVJ k£&V Wy YNY bxelE^p

5NhW[zajbj]j; ^j?j] FVAxV[[xU™Tj=ejb xTej] [jU'x[' l\f bjTl ZjYjT_\\$\f £jf] ?]j] \W\delta Da\f â], bxekE^ža[£†WÉgaj 5j^jb NjE5j^j] F V® ; 6 Weei NNkTV VX \$\$\dig_^n\fix? \NkTV VX \$\$\dig Vj ; 6 5 µ ^ kF bjxT] 5 V'M[; ? k [eTjV] kbxaxY WÉN bep

5j[jxT] 'k?Ema%jnkW]j';@jxW';6'kY_jxxa] 'FV™ xVNtN'; Yg? [hYjkV] 8Tjb] Mbxe 5jxEp Nj] j 5jFx? \fin?]xE @ mn] Uj]? XjbD; Yg Nj] _eNjV`xFjxl]`kY],xÊ`\jxT]x?`Nj]j`NjxT]`WWfš 8Wk/xY_«x^j:xSx?:k/xe; xakE^p:FVAM ; @V'_jk]ej] 'Yj£\fekV] = 'TjkY'FjVjxyEp';] 5jxA'akki'U'jW!Uj] Njj 'WÉjY6'; 6'xAjÁ«x^j]

Yx^kEx^Vz **(y^b3/4)** ajbj] je kF bjTl ZjYjT_š Elcxe: \j=ej: 5j^xFkjeje: kFbjxT]: 5j_lYjsT: a[nb] [xUM ?ktž\j 5j^xFk]ej] [frjkbTxT] ; ? kt [bf ? jxF] '5j[jVNpÈ

; a[£†?j]xNxi kFbjxT] WEjY kE^ 6kNYjD?p 5jFx?ž5j^jb] T]Yjx] â?k]ejžNj 6a^j[I Y^j`\jež 5j^xFk]ej`kFbjxT]`8W]`[jk^; Ygi K'KYej'KFbjxT] 'WÉjY'_ÁMM] 'T^«x^jx? 'KYK' Ò' ?x]xE; Yg;agbkN]; ? VN\\h([jU'\x[] ab\/j bxexEp...

5j] ž 5j^bj[Tkn^jbž; I j 5Y_76 a• Y bxexE R'Em «],NWMs Y™SxT] 5j^xFk]ej] : 5j^xFk]ej] [jkl xExc;@jxV; xa x[bVN; Yg $?iM'jkV'?]j] ??j] xVt[]j'ajbj]j'5\mu x^'kFbjTl'$ 5j6V WModcj:?]j] FV™abje? Zk[?j W/^V ?x] '5jalEx^Vp

; kl. xVkNYjD? Vež Y] g ; 6 N'jA £R? jx]] 8xÂ_™ kE^ Tj=ejb ; Yg kFbjTx? 5j]= YJW? ZjxY Elcxe xTejp] ja^njb aj^j^jî 5j^j6kb =ejaj^j[!;] ajbjYlAxlV] [xU"@Yn?[ao@?!'ajbjYl [kTVje [kN]kf]k/!?x]kEx^Vp : WÉv NVX° \ddot{z} NjikT] 5kU? jg_6 x° ; FVx? kF bjxT] kTx? 5jb0kT?]j] FV™kYkZV (_bx] Ekcxe kAxekEx^Vp



belEx¹3

5jWVj]j`x\[V`FjxVV`x\z`\@V`xSx?`Fj[jN`5jT!Tj=^j`_jx[`NjxT]`a•W£j]xVj[`xBj`NjTkTxekE^z` 5j] \@V`xSx? Nj] j`l\F bjTl'? j\\\$[«x^j] [xU^\Vj_? Nj`a kee?] j] ; Yg; x? D] [\VV\\\$ l\Tx? \k/xe` \j=ej] 'kaÊj%#kVxekE^žN@V'xSx? 'Nj]j'V\fe'a?^'kFbjTl'[eTjV«x^jxN'Vj_?Nj'akæ?]xN'?jF' ; 6' IF bjT' IE^'; x? Yjx] '5j^xF kj ejVz' k? \(\infty \); y/Ep x? jV [eTjV6' NjxT] ; 6' D© j\(\alpha \) Sx? xj bj6' Wjek/p Wkik [eTjxV6' Vj_? Nj?] xV Yg kVxFxT] `WkN` `WkjkVN`?]xN`NjxT] `?[65jxEp5j^xFk]ej] `[eTjV=`;] `YTkN©[`Vep` [jAk] Y' W. Statelcxe xAxep 5% NV Rm NjxT]; ? I j' Wood UNE 5 jxep 18 Enhm?; kt x? Abbv? x] ke^; Yg F j[jN 5 jN! Tj=^j] Wood NjxT] YjejN xBj` N/T? x] kE^; Yg VW šagAJV xSx? '5j^jTj bxe kAxexEp Nj] j '5j^!5jTVjkV] 'YjVjxVj'; Yg 6a^j[[l'xê xl] '5Vanj] [xtt] 'YjVjxVj' xa6'; ?6'5F bnjN'Y'Ybj] '?xj '\j'Nj] j'5j^!?jxetj' x8x? ' kYZk§] a[e Yj]Yj] Y'Ybj] ?x] 5jakEx^jp

> NjxT] WÉjxY] [jÁj a•R Y^Yžbī)É[eTjxVNjxT] xMkNYjD? WÉjY kE^ž?j] M; ^j?jYjal; Yg [FijkbTAM[^N_TM\$Nj; YgWNxV] 5kZx\jA?]xNkE^pNj]j[FijkbTxT] _]kx] 5jYj] VNkh?x] 5jBjN?]xN; xakE^x_]l]6kN[xU"5ag@"5jBjxNFFkjNbxexEp

> \j6`xbj?ž5j[]j`5jF`Y^xN`Wjk]`x\ž5j^xFk]eje`5j6`;afi]`kTV`x_`p`;]`Vj[`;YgWk]?àVj` U@fa bxe xAxE ? j] M; I j] FV-6 bxel/E^ [MilbxaxYp; I j xT@] x2 jV k/ e6 Ve x\ l/ ZjxY ?jxX];;Yg;5V[[jUl:k[kKejxN;ljx?:Wkf],±lk/N:?]j]:WkfDap:D[^jxk/j:bxyEz*[r^N;lj]:FV-6: bxexE5VIIDYef; Ygik? Ni5Yfiep

> a[£†W£coaj; Yg5VAM655j^jb*Njej^j] FV52*WrjxVj WkNlcN:[FrjlbT; xT] ajxS:x\jA:xTVkVp; 5j^xFk]ej] x?jV:5kXkaej^1&gYjvNrjxVj?[jÎj] \j]j`NjxT] :5Y££6XJ :«],N′a•íx?š5kZ´ ; Yg \j] j`YjcjYjlc] `X^jX^`a•í x?`\$F jx\V`NjxT] `x? 86`; xT] `ajxS`YjejNYÊ `bVNvp`Nj] j`al[j^"BxV] ` 5j«xV°T®°bxexEž5j] 'Zjx^j:?x] 'Y^x^žNj]j'; @V=; 6'5j«xV] '£PT'xZjA'?]xE'; Yg;] k/`TjikN] 'X hjnk/j î x/`\%kjîVjkyEp'

VÊ(, . '; lj'k'aN'%\k'Ent^'fk\[V!'i'[jN'5jT'Tj=ej'5ja'aj^jkkejtž\j]j'VkYš5j^'?jxeTj]'6a^j[l'[jAk]xY]'ajx6'YjejNYE'kE^žNj]j'NjxT]'YjejN'Z±'?x]xE'; Yg; @V Fi[iN'5iT!Tj=^ifIsb? YjejN'kTxexE3

bjje; Ijanjenky vojnj T^ Vežnjat] [autså Remi

 $xT@xh5jk[~;~x?Yjx]~x@j^j@xh^Y^kEž5j]~5j[j]~;~6`?Sj^Yq_Uj~xT]$ F V'''\[F j [jf\[j Nh^ \cdot \right] [j N \right \right \right] \right ? j J j x[j] \right Y j 6x] \right Ya Y ja \right ? j K \\ \footnot \right \rig a 63yD'; ? '£1XN] jxF™kY] jF '?] kE^'; Yg'Nj] j 'kVxFxT] x? '5j^xFk] eje' $\label{eq:lemma:$ Nj] j6 aYjkU? akJ? ; Yg Nj] j6 WŚ[ž Nj6 5 V™a? ^ AxkNJ 8kDN NjxT] 'WNj?j'; Ygik/xx8xK] '5UxV'x\jA'xT=ejp'; 6'[jVla?Nj'NjxT] ' Tj=ejN'; Yg`\mbai FV""^xa6'aY'aj^jkX'Abbok x^j] 'ajxS'x\jA'kTxN'5WjjxUj '5kZx\jA'NmxN'â]; '?]x^j'\j'Njij'?xjV'kVZ\j] '[xU™xa6'xTkj'?kjxe'xTe'\j]j'kF"5j6"; 'fbīAŁ'xSx?'5jaj'@jxjkFxT] 'a[£†k[S™mxT]; [V'?Sj='5jxE'x\z5j^'?jxeTj] '6a^j[l'[jAkjY'; [V';?ki']] kVe[?jVntx?xZx°«kcxekTxexEV;YgNjWb[]@]V?x]xEV"""

\Mt^xN\Sjx?\Na MNj]j\WfETN\bxe\je; Yg\NjxT]?j\\$[\Wfe:YI bxe \jep

\@V`Nj]j`8Vx{j}\$`5Y£j&`WkNN`bxekE^žk?EnzaV"\N@V`NjxT]`kYxYx?]` $5jN\delta jxT] DxV k_?j bxekE^; YgNj] xEjkEje = x?jxVjV2ejx] Wejx] West$ YTYEEYTMINZ 5j] x?jxVj]?['_Nš= al[jYÊNj Vj xTl@e' ?jxeTjNM x\jATjV; Ygja[SxiV@mib6""

k? %actzyjkn™V? ZjxYž\@V`Tj=^j] `kKNVj`â], `b^žN@V`NjxT] `k? Em\Nj]j` \j]j`Wbb[`Yj6ejN`Z°`?x]kE^z\5j]`Tj=^j]`Wbb\5jVAhN\\\Bj`NjI?]x^jp` x28 x28 Yj6ejN Zx2]; 6 WE ejx2 Yj ?] xN Dj6x^jz 5W] Wx x28 $\textit{X}^{0} \text{ S'} \text{ S'} \text{ S'} \text{ S'} \text{ Y} \text{ i'} \text{ Tirl} \text{ '} \text{ Dr'} \text{ '} \text{ AA''}; \text{ Yg' af'} \text{ [FrjikhTxT] 'Vjx['; [V'aY'] }$ T^`\j] j`_jk] ejb`5Vknjel`5j[^ ?] xN`5£R? j] `? x] xE```fkW`Nj`? k(] Ł`

; 6'kD%[blj]j'!\j'NjxT]'\WNjxT]'[jxG'kY£fNiZNjxT]'T^x?'TMs\'?x]\; Yg; 6'bNj_jFV?'T^kk'5j©[xN]\'k_?j]'b=ej]'\W]'Nj«xN]'bjxN]'
\w\^x\\Six?'\Na_Nn\illikYE'N'b\e\\ie\'Ya\NiXT]'Z\\@['\M\\ie\'Ya\NiXT]'\; Yg\'\Six?'\Na_Nn\illikYE'N'b\e\\ie\'Ya\NiXT]'Z\\@['\M\\ie\'Ya\NiXT]'Z\\@['\M\\ie\'Ya\NiXT]'Z\\@['\M\\ie\'Nj\'X]'\; Yl\e\'X\\ie\\X\\ie\'X\\ie 5jNa[WM/?]xN'YjU™be'; Yg'Nj]j'5j^xFkjej]'Nj«N'5N'j''2j]i' _ja? 'YMNKX'Ÿj]x? `KVxFxT] `N3/}YUje? `KbxaxY`xT@xN`â],`?x]p 5j] 5j^jbYkkllll Wj bjæek? kVklllll ?x]Vp

[XNj RETTIX] 'ÙjR/ta XEJÆJDK] Nj a•î X? š5jVKV 'NjxT] X? FjVjxVVR3

5jax^ž [frjlbT: xl/NjAM = NjixT] [NjT_šxSx? ËlVTjk]Nj; Yg * [\jtja•íV; YgkFbjTl:5kZ´Nja•íV;x^j?xT]?jFž?[skV/j6; Yg agk_jUVWLUTM_[jVm] j W] j[_skVxexEp 5j]; ? kt 83/4 T] F jx? = 1 Nj] j`8• jb] `aj[x\/` WlÉ_\\'?] jx\/j`Y'NIN`xExc`xTek\/\'` k\/x_``? x] \\mathready xt] x? ; Yg Njixt] '5AK[ilbVlxt] x? p 5j] 'Njij j _eNjxV] '; ? kt ' $T] F jx? = xa@jxV W fx _ ??] j \cdot 5SY j \cdot Nj] \cdot fl eNjxV] L \cdot WS \cdot D^j \cdot xSx?$ aN?šVj:?xj xExc kTxfEV Vjp a[£†W£gaj 5j^jb'Njej^j] FV" 1N \xSæ?æ; Yg[[jk% BlVj] k_?jj bæk£žNj6; «x^jx? 5j] kFbjTl^j6xX}la[b'NjkT] [[snj] [xNj WÉj[e'YjNf; Yg'Y§Y™Ëj]j' $W_{ij} W_{ij} S_{j}^{*} D_{ij} N_{ijk} N_{i$ 6YjTN? j] lwv] p

5N; Yž 5j[j] `W]j[_šNjkT] `?jxE`abF^Z™8WxTx_] `[N6ž NxY` AwVj[jxT] `?jxE'; xaxE`xVj[jxT] `[U™\Sx?6'; ?FV']jar^p xVj[jxT] ` ; @jxV`\j`5jxE`Nj`ag&`W?]j] x?jV`am\jA`xV6h`

- $[jVmx? FjkAxe NfmAV bxY \jxV Nj]j 5jYj] = 5jx^[xT] ?jxE$ kXx] 5jxa; Yg NjixT] XN=eja[b AbM?x] z 5j] NjixT] W£gaj ?x] p kF bjT; ?kt k? NjY \ j W\$ WE_\$7?x]; YgN] Yjk] xa6 kF kVa \j`a[S\$\'x\jAjep`\\$\kT`N]\Yjk]`?j\\5jVx?`N']\A`?x]`Njbx\`; Ij` \[\frac{1}{4} \] \[\frac{1} \] \[\frac{1}{4} \] \[\frac{1}{4} \] \[\frac{1}{4} \] \[\frac{1} \] \[\frac{1} \] \[\frac{1}{4} \] \[\frac{1}{4} \] \[Nj xbj? VNIMYj WjmxVjp
- * [jVmx? akl? Elk/kD%fkj]j; Yg\Sj\S 5jD]xl\] 8W] kZk4?x] 5 | R T | R R A | T | Y Y E A | a | Y Y E A | a | S a d | ae?] x N bx Y ; Y g V Y I a j ^ j ^ j î $5j^{6}k^{6} = ejaj^{6}[= Nj] ajbjYlAxV] f] j''L kT? kVxT<u>š</u>Vj 5Var] M$?]xN'bxYp
- * \jxT] : bjxN : xVNM' NjixT] x? : @j=ejk] F : = : [jmkFejxT] KYVNT] VYÉNN a•íx?š5YNbN`Sj?xN bxYž\jxN \M?xT]x? $axDNV ?]i] ; Yg ; 6 a?^[NjTx_s ajxS \fin ?]j] = 1$ NjxT] 'k[S']X? '8xV-jkDN'?x] 'xTej] 'anhjA' Vij=ej \jep'

NjikT] `F | YVI `5 U']\(extraction | SWP j] `Wj=ej] `xDa\(?) xN bxYp

 $kF bjTI \ Ma \cdot Wie : Yg j j kF bjTI ? Night Ma \cdot Wie : 5j? j, a lž$ NjkT] `xF xV`]j@|`8kDNž kMÉ`VYI`aj^j^jî `5j^j6kb`=ejaj^j[!;] `8 Y\$\hat{\mathbb{E}} \x\nd{\mathbb{N}} \xT=ej \jx\nd{\mathbb{N}} \y\nd{\mathbb{N}} \xT=ej \jx\nd{\mathbb{N}} \xT=ej \jx\nd{\mathbb{N}} Vj""5j^jb*Njf5j^j 5j[jxT] VYI aj^j^jî 5j^j6lb =ejaj^j[!x? Tej ; Ygx?j[^Nj] ajxS`Yx^lEx^V.!

Th@!?æNj] VXª Thabp'kNkV'xNj[jxT] '?^JfVI'j[lž[kfvVxT] VMEN' kNkV xab_I^; YgTej^paffalfj 5jN!Nj=Yjb.! %k, Ł

8x^@M5j^xFk]ej] '5kZ´Nj] '5jx^jx? '; I j '; x? Yjx] '£í æx\ž8Ze' T^6 fl@jx] kF; Yg [jmkFejk: NjxT] : kYØj%&] : WkEkN] : [jU'xV : _ ÁxnhT] 5\\{\text{W}jx\tau^j \text{bxe}^j \text{bxe}^j \text{je}; \text{Yg}; \text{6'_Ajhji} [jhht ejxt] x? \text{YYbj] \cdot ?x] \text{1} NjxT] kadpjaVx? 5j] = $[\S_j^1]$ xE; YgNjxT] k[S][0] x? abh] ?x] 8WE W? xE; Yg[jVmxT] x? NjxT] 5VJ e] k], xÊ = ej

> $xb^5j^jb^*5j[jxT]^k\underline{a}^a$; $YgVYI[bj^*jTkYV^5jYTf^jb]^8W]^*zNj]^.$ W() Yj] YxA() 8W() žNji) ajbjYlAxV() 8W(); Yg\j] j [bx²/4 ajxS k/D)] kTYxa] 'WYSVX.\$\$\$NjikT] x? '5Van] M?] xYV NjikT] 'a? x^] '8W] '_jle%\$ Y` **&**/I?],Vp'

5j\\(\forall j \rightarrow \forall j \righta